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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,624	03/31/2004	Yuji Hamada	50024-036	3821

7590 01/25/2007  
MCDERMOTT, WILL & EMERY  
600 13th Street, N.W.  
Washington, DC 20005-3096

EXAMINER

GARRETT, DAWN L

ART UNIT	PAPER NUMBER
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1774

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/25/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/813,624

Applicant(s)

HAMADA ET AL.

Examiner

Dawn Garrett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 November 2006.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3, 18 and 19 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-3, 18 and 19 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. This Office action is responsive to the amendment filed November 6, 2006. Claim 1 was amended. Claims 18 and 19 were added. Claims 4-17 are cancelled. Claims 1-3, 18, and 19 are pending.

2. The rejection of claims 12-15 under 35 U.S.C. 102(b) as being anticipated by Mizukami et al. (JP 2001-214159) is withdrawn due to the cancellation of claims 12-15.

3. The rejection of claims 4-9 under 35 U.S.C. 102(e) as being anticipated by Higashi et al. (US 7,045,950) is withdrawn due to the cancellation of claims 4-9.

4. Claims 1-3, 18 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Higashi et al. (US 7,045,950). Higashi et al. discloses organic electroluminescent devices with an organic compound layer having an impurity concentration of lower than 1000 ppm (see abstract). This impurity concentration encompasses the impurity range required by the present claims. The organic compounds may include phenylamino-containing compounds (see bottom of col. 7-8, bottom of col. 13-14, top of col. 15-16, col. 17-22). The electroluminescent devices may further comprise carrier-transporting layers per claim 3 (see col. 26, lines 51). Claim 18 is a product-by-process claim. M.P.E.P. § 2113:

“Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.”

*In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)...

“The Patent Office bears a lesser burden proof in making

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out a case of *prima facie* obviousness for product-by-process claims because of their peculiar nature” than when a product is claimed in the conventional fashion.

*In re Fessman*, 180 USPQ 324, 326 (CCPA 1974).

Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983).

It is further noted that claim 18 does not require that some of the copper catalyst used in an Ullmann reaction is left behind in the phenylamino product. With regard to claim 19, regardless of a method of detecting impurities in a final product, the final product in the prior art is considered to meet the product limitations of claim 1 as required.

5. The rejection of claims 4-9 and 12-15 under 35 U.S.C. 102(e) as being anticipated by Toguchi et al. (US 6,565,993) is withdrawn due to the cancellation of these claims.

6. Claims 1-3, 18 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Toguchi et al. (US 6,565,993). Toguchi et al. discloses electroluminescent devices comprising organic layers including an electron-transporting layer (carrier transporting material), emission layer, and a hole-transporting layer (carrier transporting material) (see abstract and col. 3, lines 48-60). Materials included in the organic functional layers of the device are tris(8-quinolinol)aluminum complex (Alq3), 1,4-bis(N-p-tolyl-N-4-(4-methylstyryl)phenylamino)naphthalene (see par. 4, lines 14-22), and 4,4'-bis (m-tolylphenylamino)biphenyl (TPD) (see col. 5, lines 42-43) per the claim requirements of a compound having a phenylamino group. No impurities are disclosed by Toguchi et al. with

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regard to the level of no impurities recited in the present claims. Claim 18 is a product-by-process claim. M.P.E.P. § 2113:

“Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.”

*In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)...

“The Patent Office bears a lesser burden proof in making out a case of *prima facie* obviousness for product-by-process claims because of their peculiar nature” than when a product is claimed in the conventional fashion.

*In re Fessman*, 180 USPQ 324, 326 (CCPA 1974).

Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983).

It is further noted that claim 18 does not require that some of the copper catalyst used in an Ullmann reaction is left behind in the phenylamino product. With regard to claim 19, regardless of a method of detecting impurities, the final product in the prior art is considered to meet all product limitations of claim 1 as required.

### ***Response to Arguments***

7. Applicant's arguments filed November 6, 2006 have been fully considered but they are not persuasive. The impurity concentrations set forth in the present claims encompass a zero concentration of impurities with regard to the Toguchi et al. rejection. Higashi et al. clearly disclose impurity levels within those claimed by applicant. Accordingly, both Toguchi and

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Higashi are considered to anticipate each required limitation of the claimed devices. Both Higashi and Toguchi need not recognize the significance of copper atoms in a device, since neither appear to comprise copper atoms and an amount of zero copper atoms meets the required product claim limitations.

Applicant's apparent discussion of an unexpected discovery that copper atoms lead to deteriorated luminescent characteristics (see response filed November 6, 2006, bottom of page 4) is not persuasive to overcome the anticipatory rejections of record.

New claims 18 and 19 are rejected for the reasons set forth in this Office action.

The following relevant sections of the MPEP are again noted:

MPEP 2173.05, which discusses "up to" includes zero.

MPEP 2144.04, which discusses recitation of materials without impurities.

### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 5,654,481, US 6,822,094, US 6,596,450 and US 6,492,041 discuss it is well known in the art to form arylamine compounds using an Ullmann reaction process.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571) 272-1523. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached at (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Dawn Garrett  
Primary Examiner  
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